

# Life

## in a Fifth-Millennium BCE Village

### Excavations at Rahmatabad, Iran

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The door of our light-blue Mercedes minibus closes. Heavy sugar bags of flotation samples, buckets full of sherds, and tiny small finds have all been securely stored in the back of the vehicle. Everyone has taken his or her usual place, looking out of the window or immediately falling asleep. Another exciting and dusty day full of discoveries at Rahmatabad lies behind us. Now, all the mind can focus on is a tasty *ghorme sabzi*, rice with crunchy *tahdig* and cool *ab-e dugh*, followed by melon for dessert and tea. But Pasargadae, the ancient Achaemenid capital where we have our living quarters, is still half an hour away. Akbar Aqa, the driver, steers us home as safely as he can. Two brightly colored trucks speed towards us, one passing the other on the narrow two-lane road. It looks for a moment as if we will be crushed, but just then one veers off to the side before hitting us frontally. We pass a daring worker of ours who drives home on a motorcycle. Reaching Saadatshahr, the road turns into a highway. Time to relax, and to think again about the enigmatic dark brown traces we discovered today and tried in vain to unravel. How will we continue tomorrow? Should we spend even more time scratching our heads over the apparently indecipherable patches in the soil? We have only one excavation season, and the bulldozers come inexorably closer by the day—but what is it worth to have stratigraphy without features? One hour tomorrow morning, at dawn, will have to suffice to expose what might be walls, or a jumble of broken bricks, or nothing at all.





Each day of our 2005 season at Rahmatabad had a similar “happy ending”—surviving the highway. It was an ever-present reminder of the reason for our salvage excavation—the broadening of the road from Esfahan to Shiraz, which we traveled on every day, in order to make it safer. The site of Rahmatabad lies just next to this road and is strategically positioned at the lower end of the Bolaghi gorge through which the river Sivand has cut its bed. The upper end of the gorge is marked by the impressive tomb of the founder of the Achaemenid Empire, Cyrus the Great, and his short-lived capital Pasargadae. The path into the ravine skirts an Achaemenid irrigation canal cut into the steep cliff on its right side and, after winding through a very narrow stretch, the mountains give way to the small, lush Bolaghi plain. Further downstream, the river breaks through another mountain chain where the Iranian government is building a hydroelectric dam. To the south, the Sivand River passes another gorge to emerge in the Kamin plain where Rahmatabad is strategically located.

The climate in this region is moderate, with cold winters and pleasantly cool summers (Ehlers 1980: 68–78). Mountain slopes are covered with deciduous forests of wild almond and pistachio. The extremely bitter and somewhat poisonous almonds are still harvested, processed and used as medicine. Wild pistachios, very small in comparison to our supermarket products, are collected on the twigs while still completely green. Pickled, they turn into a delicious appetizer. The sap of pistachio trees is very gluey and serves multiple purposes. Without further processing, it can be used as a healthy, sugarless chewing gum, called *saqqiz*. The valley floors have good agricultural soil, and most of the available surface is used for grain fields, interspersed in some areas with stretches of rice paddies. Numerous caves display remains of prehistoric habitations, some of them excavated in the summer of 2005 by a Japanese-Iranian expedition. Villagers fish in the Sivand River and hunt for wild animals. Recently, animals have begun to move out of the Bolaghi plain, disturbed by the detonations from the dam builders. The valley was formerly a well-protected and easily defendable natural unit, a favorite place for the Basseri nomads who still pause here on their biannual migration between winter and summer pastures. Anthropologist Fredrik Barth traveled with the tribe some fifty years ago, and gives a vivid account of their

▶ This aerial view of Rahmatabad was taken shortly before excavations began. The main excavated trenches are outlined in red, the location of a stratigraphic trench in white. To the right of the mound, the highway from Esfahan to Shiraz is visible. The modern village next to the mound has flatroofed houses. Greenhouses, made of long plastic sheets, are used to grow vegetables. *All illustrations are courtesy of the authors.*

▶ Little boys playing behind our living quarters had a mundane use for small clay balls that they fashioned. They gathered mud from the small irrigation channels that water the melon and vegetable gardens, shaped the mud into balls and dried them on the terrace behind our excavation house. After one day they were sufficiently hardened to be used for hunting birds with slingshots.



In the ash heaps deposited in courtyards, we found many small clay balls. These are traditionally thought to be objects used in prehistoric times for accounting purposes. In a contractual situation, both partners witnessed the counting of items (such as sheep). The number of tokens represented the things counted, and when the contract ended, the sealed container in which the tokens were kept was opened. In this way, neither partner could cheat the other by making exaggerated claims about the initial conditions of the contract.



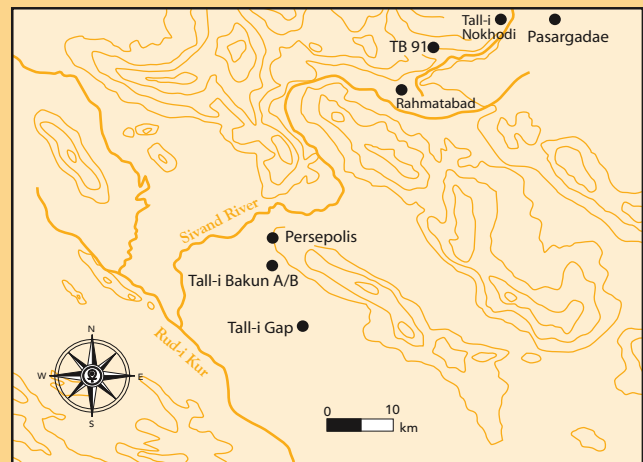
## Bakun

The Bakun cultural tradition is named after the site of Tall-e Bakun, which was first investigated by Ernst Herzfeld in 1929 in the course of his explorations at nearby Persepolis. Soon thereafter, Alexander Langsdorff carried out large-scale excavations at the site. His work, in collaboration with Donald McCown, was a model for its time, with excellent documentation and observations, as well as analysis. Langsdorff and McCown published their findings in a path-breaking volume (1942) that remains the most important reference for any work on the Bakun tradition, although subsequent work has added significantly to our knowledge (Egami and Sono 1962; Alizadeh 2004). The Bakun period is thought to have lasted from approximately 4800 to 3900 BCE. So far, no clear internal subdivision into shorter time periods is generally accepted among archaeologists, although several schemes have been proposed (Voigt and Dyson 1992: 137–40; Dittmann 1986: 315–30, 338). William Sumner's survey of the Persepolis plain (Marv Dasht)



Map showing the distribution of the Bakun cultural tradition in southwestern Iran. The Bakun period lasted from about 4800 to 3900 BCE.

provided a detailed overview of settlement patterns. Sumner found 143 sites with painted Bakun pottery (1972: 39–40). While most are small, three of them are larger than five hectares, or an estimated one thousand inhabitants. These might be considered central settlements, but none has yet been excavated. Sites of the Bakun tradition have also been found outside the Persepolis plain. Apart from settlements around Pasargadae, reported here, Bakun sites are known from the valleys of Fasa and Darab further southeast (Stein 1936; Miroshedji 1973), the high Bakhtiyari mountains to the northwest (Zagarell 1982), the upper Zohreh valley (Dittmann 1984: 29–39) and, most recently, surveys and excavations west of Shiraz in the Mamasani region (Roustaei and Potts 2004). Bakun pottery technology is similar to that of the contemporary Iranian lowlands around Susa and southern Mesopotamia. Fine, mineral-tempered clays were shaped into bowls, pots with steep necks, and beakers; the wares are fired at high temperatures and mostly decorated with abstract, complex patterns in dark brown to reddish colors. The motifs on Bakun pottery are sufficiently distinctive to identify the middle Zagros region as a distinct cultural entity named “Bakun.”



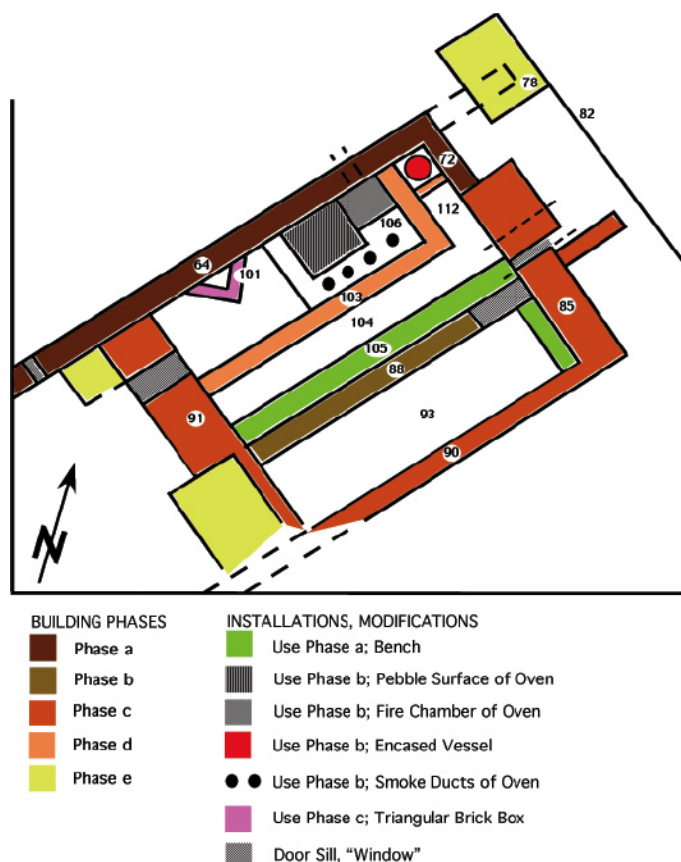
Map showing the area around Tall-i Bakun, the type site for the Bakun tradition.

life in his famous *Nomads of South Persia* (Boston: Little, Brown & Co., 1961). A section of the Basseri tribe has become sedentary and lives just a few kilometers east of Pasargadae in the village of Kurdshul. Some Kurdshulis still move into the valley of Bolaghi in the summer, living in tents and tending their herds.

The region has a long history of human use. We focus here on late prehistoric cultural traditions from the fifth millennium, the principal time period when Rahmatabad was inhabited. Our knowledge about the area's prehistoric sequence is limited, as research up to now has been scant. Only a few excavations and surveys were conducted in the last seventy years. Sir Aurel

Stein was the first to explore the prehistory of the province of Fars. During his travels in 1934, he visited Pasargadae and found two nearby sites that date to the Chalcolithic Bakun culture, Seh Asiab and Do Tulan. His brief soundings were published in a summary fashion, and his finds are now stored in the British Museum. Stein followed the river Sivand down through the Bolaghi area. From his descriptions and a map it is clear that he stopped at Rahmatabad and collected sherds, though he does not give a name for the site (Stein 1936: 221; Dittmann 1986: 365). In 1951, Ali Sami, whose archaeological work was focused on the historical ruins at Pasargadae, briefly investigated two other sites





Houses of the Bakun village went through a complex cycle of renovations and refurbishments. This schematic plan includes all modifications that we could identify for Building I. The house could not be completely excavated, and there may be more, as yet undiscovered, modifications from earlier stages of its use.

of the Bakun tradition, Tall-e Nokhodi and Tall-e Khari (Sami 1971: 24–25). Some ten years later, British archaeologist Clare Goff continued the work at Tall-e Nokhodi, and was the first to unearth a large, contiguous area of prehistoric settlement in the region of Pasargadae. Renewed interest in the prehistory around Pasargadae was sparked by the Bolaghi salvage project, resulting in the 2005 rescue excavations at TB 19 and TB 91. An Iranian-German team under the direction of Barbara Helwing and Mojgan Seyyeddin excavated these two small sites of the Bakun period in the Bolaghi plain. Rahmatabad is the largest of the Bakun sites so far excavated in the region. Hassan Fazeli led the excavation team, which included scholars and students from Iran, Germany, and the United States. The Bonyad-e Parsa Pasargad, an archaeological research institution, and UNESCO provided funds for our work.

## Rahmatabad

The ancient mound of Rahmatabad is completely enclosed by roads and buildings. It lies directly north of the modern Esfahan–Shiraz highway. To the west, a smaller road leading into the Bolaghi gorge skirts the site. The construction of this road likely destroyed the western part of the site. We conclude this from the unnaturally straight edge of the mound, which runs parallel to

the side road, and from its very steep slope. The modern village of Rahmatabad encroaches on the mound from the north, and to the east is a parking area with a small truck stop. The archaeological site has only survived thanks to the Iranian Cultural Heritage and Tourism Organization, which protected it with a metal fence and a clear sign that marks the importance of the ancient ruins.

The widening of the main highway poses an immediate danger to the southern part of the site. We therefore decided to locate three large trenches of ten by ten meters each in this area. Excavations lasted five weeks, from June 5 to July 10, 2005. The first thing we discovered was that in all trenches, the topmost material consisted of a substantial layer of reddish, eroded mudbrick. We know from a narrow stratigraphic trench on the steep western slope that the mound had been crowned by a massive mudbrick building. Unfortunately, we have no definitive evidence for its date, as the remains we found consisted of a massive wall more than two meters wide that extended over the whole surface of the stratigraphic trench. However, the size of the bricks points to a Parthian or Sasanian date; that is, to a habitation of Rahmatabad in the first centuries CE. This is also indicated by a small sample of surface sherds from this time period. The disintegrated bricky soil in our trenches at the foot of the mound was derived from this building. The advantage of this situation was that it covered prehistoric layers, protecting them against further erosion. In those prehistoric layers, we discovered two main stages of a settlement from the fifth millennium BCE—the older one a village, the younger, only slightly later one, a potters' work area.

## The Bakun Village

The oldest layer so far excavated consists of a densely settled village. We were able to identify at least three multi-roomed houses, all of which seem to be rectangular in shape. Narrow alleys and courtyards lead up to the houses. The courtyards, alleys, and buildings show distinct uses.

In courtyards, huge amounts of garbage were discarded. The deposit was very ashy, pointing to fires that had been lit there from time to time. Among the objects that had been discarded are many fragments of painted bowls, some “ceramic pestles,” bones, chipped-stone tools and debris, and coarse unpainted figurines. We also discovered a number of tiny clay balls and other geometric shapes. Usually such items are considered by archaeologists to be tokens that represented materials exchanged or stored somewhere (see, e.g., Alizadeh 2005: 154–55, figs. 71–73). However, children at our dig house taught us that such assumptions can be mistaken: they take mud from small irrigation ditches, roll it into balls identical in size and shape to those of our finds, dry them and use them as sling balls for hunting birds.

Alleys in the Rahmatabad village were work spaces, as indicated by installations for the processing of materials. In Alley I, people had set up two mudbrick platforms. One was for heating something, as indicated by its burnt upper surface, whereas the other was encased on three sides, and had a silty depression in the middle, as if it had been filled with liquid, from which small particles settled at the base of the depression. A small channel, also filled with silt, led to one small and one large pottery vessel,



A large pottery kiln was found in the corner of one trench. In this picture, the grayish-blue colored material in the middle ground is the remains of the circular walls of the kiln. The color indicates that the kiln could reach very high temperatures of over 1000° Celsius. Above, and still in place, is the fragment of a thick, round pottery disk with large holes. Such pieces divided the firing chamber (below) from the loading chamber (above) where the pottery would have been placed.

both of which were discovered *in situ* but in a broken state. Another alley between Buildings I and II also had a podium for firing, and in the exit into Courtyard II, there was a long, narrow channel filled with some yellow, unidentified material.

So far, we do not know much about the specific uses of the three buildings excavated. This is due in part to their complex remodeling over time. However, in their last phases of use, Buildings I and II both contained two-storey ovens with very similar structural properties. The oven in Building II was the much larger of the two. Both had a firing chamber with separate access for fuel. The smoke and heat did not directly enter the loading chambers of these ovens; it was led up through cylindrical shafts in the thick walls, presumably into a chimney. The divider between firing and loading chambers consisted of a sloping, pebble-covered surface. When we discovered the first of these installations, its complex structure made us immediately think of a pottery kiln. However, the comparison with a massive pottery kiln from a later level convinced us that these ovens must have had a different purpose. They had not been heated to very high temperatures; the walls were reddish, indicating temperatures of 600° Celsius or less, not enough to fire the hard-baked painted Bakun wares. While massive amounts of ash were found outside them, slag or misfired pottery did not occur there more often than elsewhere. In addition, stacking unbaked pots on a sloping surface would have been risky; they could have easily tipped over, destroying the carefully shaped and decorated wares.

What then could have been the function of these ovens? We took some samples from their interiors, but do not yet have any results from analyses. For the moment, their most likely purpose seems to have been the processing of agricultural products for easier storage, preservation, and cooking. If agriculture was based on hulled cereals such as emmer, the task of husking the grain could have been simplified by parching it in ovens such as these.

Other possible uses of the ovens are the drying of grain to prevent sprouting in moist storage environments or the smoking

of meat (Clayton 2004). In all these cases, the well-prepared surface of the loading chamber would ensure the cleanliness of the foodstuff processed. These suggestions, however, do not explain why the divider between firing and loading chamber should be sloping. Another possible use is the production of bread on heated stones. This technique is used today in Iran for a very tasty flat bread called *sangak*.

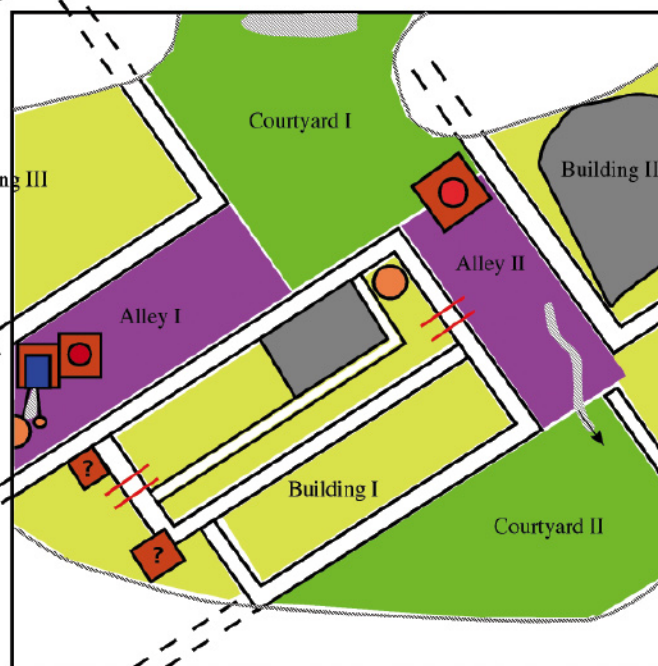
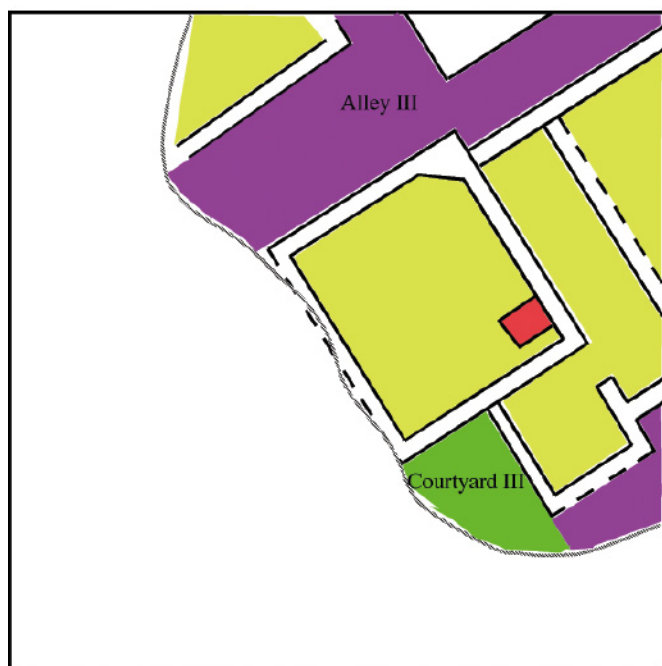
Not all of the houses contained ovens. In House III, portions of which were exposed in two of our excavation units, the only evidence we have for a fire installation is a shallow, square hearth set into the corner of a square room. It may have been used as a source of heat and light, as well as for short cooking tasks.




Houses in the Rahmatabad village had flat roofs. We know this from lengthy, T-shaped, clay pieces, all of them broken into small fragments, which were originally the top layer of a roof made of stems and twigs and covered with a thick layer of mud. In some of the rooms, fragments of red-colored plaster were found, a decoration already known from nearby Tall-e Nokhodi (Goff 1963: 47).





The thin-walled buildings, all constructed out of mudbrick or adobe, did not easily withstand frost, snow, and rain. We can reasonably assume a use life of maximally thirty to forty years for a house. Within that period of time, internal spaces were “redesigned” multiple times, in part because of necessary repairs or internal refittings and in part because rooms were deemed to need additions or new installations. In our analysis of the excavated remains, we differentiated between structural changes, that is, the adding or repairing of walls (“building phases”), and alterations in room installations (“use phases”). As in our modern world, such changes do not always co-occur, and we took great pains to distinguish and relate these different building and use phases.

The trajectory of a house’s “use life” could be most clearly observed in Building I, for which at least five building phases and three use phases were detected. The oldest remains of the building consist of the northwestern outer wall (64) that turns at a corner to the southeast (72). Well-laid, regular-sized bricks of dark brown color mark these walls. While we do not know the exact outline of the building at that time, we assume that most of the later walls match the original outline of the house. An inner dividing wall (88) is probably from a slightly later time than the original building, as the bricks from which it was made are quite different, lighter in color and less dense than those of the original walls. A short while later, the house must already have fallen into poor condition, as it became necessary to repair many walls. The inhabitants apparently judged the older walls to be too weak, so that the more recent ones were made much thicker (85, 91). However, building materials remained of inferior quality, consisting of sandy bricks, many of which are broken to such an extent that tracing them was very difficult. It is likely that these new walls of building phase c resulted in the blocking of an original entry into the house from the northeast. A small gap in the wall still indicates the original door. Benches in two rooms were added either at the time the walls were reinforced, or soon thereafter. Next, a substantial remodeling changed the basic layout of the house. An L-shaped wall (103)





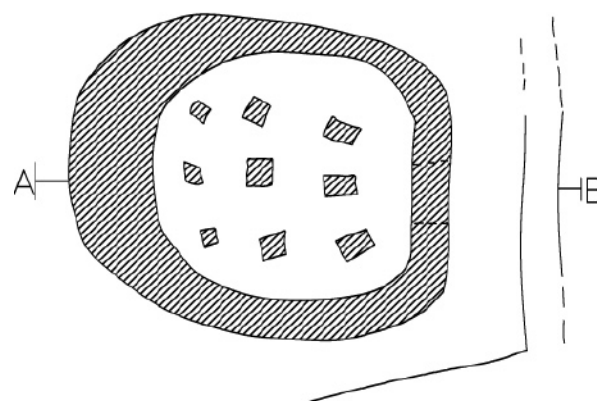
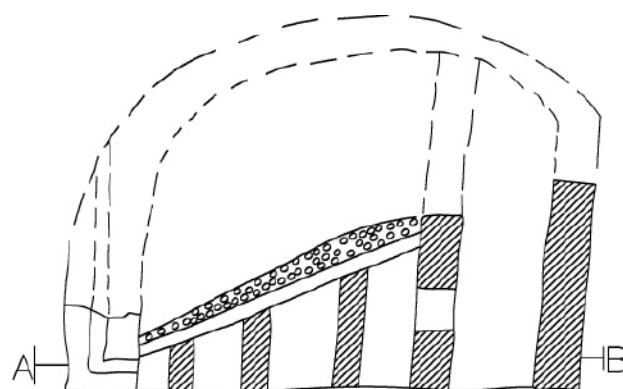
-  Platform, Use of Water
-  Platform, for Heating Activities
-  Platform, Use Unknown

-  Ceramic Vessel
-  Area Related to Use or Drainage of Liquids
-  Two-Storey Oven
-  Hearth

▶ This sketch plan (not to exact scale) shows functional areas of the fifth-millennium Bakun village at Rahmatabad. It is remarkable that the alleys between houses were working spaces, whereas the courtyards seem to have been mainly trash dumps. Installations within houses are from the last phase of use.



▶▶ People in the Bakun village used complex, two-storey ovens for processing food. The smoke and heat were channeled through ducts in the walls of these ovens, so that the materials inside could not come in direct contact with the fire. The domed cover as well as the lower storey are reconstructions.



## A Visit to Fifth-Millennium (bce) Rahmatabad

Walking through the village of Rahmatabad is not enjoyable. One steps constantly into smelly openings between flat-roofed buildings where household waste is smoldering. Children are playing in these dumps, and stray dogs linger around in search of bones. Broken dishes, sharp blades, and chippings from stone tools threaten to cut the unwary visitor's feet. Only a few meters further down into a dark alley, two people are bent over square working platforms, using a stinky liquid to work sheep skins and collecting the used watery solution in a half broken pot at the foot of the platform. Back in the courtyard, one sees a person putting fuel into a stoke-hole for an oven in the house to the right. Turning the corner into an even narrower alley, another villager is occupied with a heap of hand-shaped bricks that are unloaded in front of the house's door. That door is to be walled up because the structure has become weak.

As one discreetly examines the house from the outside, the builder calls out an invitation to enter. It does not seem too risky to accept the invitation: the main corners of the somewhat shaky structure have just been reinforced, as the still-wet mud plaster reveals. Upon entering the first room, there is an opening in the wall immediately to the left, leading into another small cubicle. The entry

is not a door but rather a squarish hole relatively high up in the wall. Walking from room to room is impossible here. It is not easy for the unaccustomed body to crawl through into the small annex left of the door. The dim light reveals red painted walls and a tiny, empty bench. Maybe it is used in other times to store small items. Seemingly, people in this hamlet take their time once they are in such a room, talking, eating, or pursuing other activities. As one bends to get back into the entry space, a tall, beautifully painted beaker comes into sight, encased by a low setting of brick that protects it. To the left, a passage so small that one barely gets through leads to an enormously hot room where someone is shoveling large amounts of grain with bare hands into a half-closed oven. Strangely, the heat radiates out of one thick wall of this oven, rather than from a visible fire. It seems inappropriate to venture further into the interior of the building. The sunlit courtyards, a few moments ago giving an undesirable impression, are suddenly pleasant spaces. What a strange way of living! Why would anyone close themselves up in such small, dark spaces, instead of remaining outdoors, camping in open tents and following herds of goats and sheep? It could be an option in winter, when deep snow covers the valleys and mountains, but who would trade a life of wandering for an eternal residence in these obscure boxes, far from trees, sun, and air?



divided what was originally a main room into two smaller spaces. This wall was clearly built in order to enclose the oven described above. This new division resulted in a space to be used for food processing and a neighboring, very narrow hallway that led to other parts of the building in the southwest. Next to the oven, a tall, decorated vessel was placed in the northern corner of the room. This vessel was apparently meant to stay there as a fixture, as it was encased on three sides by walls and towards the hallway by a brick. Somewhat later, a triangular mudbrick box of unknown purpose was installed some distance away from the oven. Finally, in a last effort to preserve this structure, three massive blocks of brick were set up, two within the building and one at its northern extremity. It is not entirely clear what the purpose of these installations was. They could either have served to stabilize the frail walls of an old building that was close to collapse, or they were working platforms, similar to those found in Alley I outside of this house. If they were working areas, the house must already have been a ruin without roofs.

This fragment of a bowl is a rare work of an apprentice. It allows us to analyze closely the process of learning to make pottery. The cracks in the base and the rim result from insufficiently kneaded clay and overly thick walls.

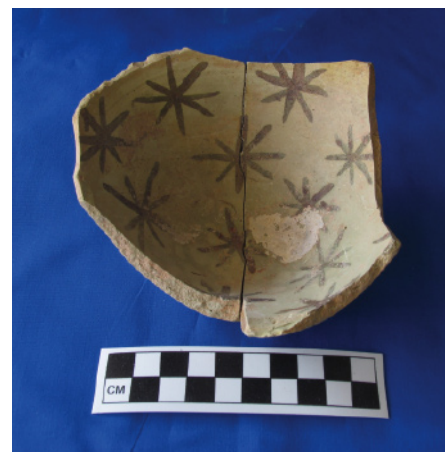




These two beakers are typical examples of small drinking vessels. They are painted on the outside from rim to base. The main band, framed by three to four parallel lines, bears simple geometric motifs.

Such a house history tells us that our notion of “home” is an unlikely one for the prehistoric villagers at Rahmatabad. Archaeologists have argued that, with the appearance of the first living structures, a sharp divide develops between a protected, home space and a threatening outside world (Hodder 1990; Watkins 1990). However, such feelings can only develop out of a certain stability in one’s immediate material environment. Surely, the relation between house and “home” is extremely important in this respect. However, at Rahmatabad, as well as at contemporary Tall-e Gap in the nearby Marv

Dasht plain (Egami and Sono 1962: 3), houses underwent continual change and probably did not outlast the average person’s life expectancy. Thus, growing up and living in the parental and grandparental house was an unlikely prospect. Even when one spent much of one’s life in such a house, it changed so substantially over the course of time that the layout from one’s childhood was often beyond recognition in old age. Thus, if anything was a “home” for the ancient inhabitants of Rahmatabad, it was likely a community no smaller than the settlement itself, rather than the confines of a building.



Rahmatabad bowls come in two sizes. The smaller ones are decorated on the interior in a tripartite fashion that often consists of groups of short parallel lines, stars or a combination of both. Many bowls have heavily chipped rims, as if used intensively. However, this may also be the result of storing them upside down.





The director of the Rahmatabad excavations, Professor Fazeli (in the middle, holding a straw hat) and the excavation members.

## The Pottery-Production Site

At some point, this area of the settlement was no longer used for residential purposes. People may have moved to some other, as yet unexcavated, part of the site. They did not completely abandon the old quarter, however. One important new feature is a pottery kiln in the northwestern corner of the excavated area. Greenish glassy drippings from molten clay cover the inside of the kiln and indicate fires of very high temperatures, likely over one thousand degrees Celsius. Nearby, a number of largely complete vessels were found, as well as three misfired bowls that had completely fused together. It is clear that this was one of the places where the attractively painted Bakun pottery was produced.

We did not find any buildings contemporary to the kiln, but rather outside surfaces in which numerous small pits had been dug. These had a diameter of twenty-five centimeters, with approximately the same depth, and were packed with small sherds and pebbles, and on the bottom with stones. The holes are distributed relatively regularly over the areas east of the kiln.

What was their purpose? At first, we thought that they might have been postholes for the support of a canopy or massive tent. Langsdorff and McCown (1942: 5) proposed a similar function when they discovered such holes at Tall-e

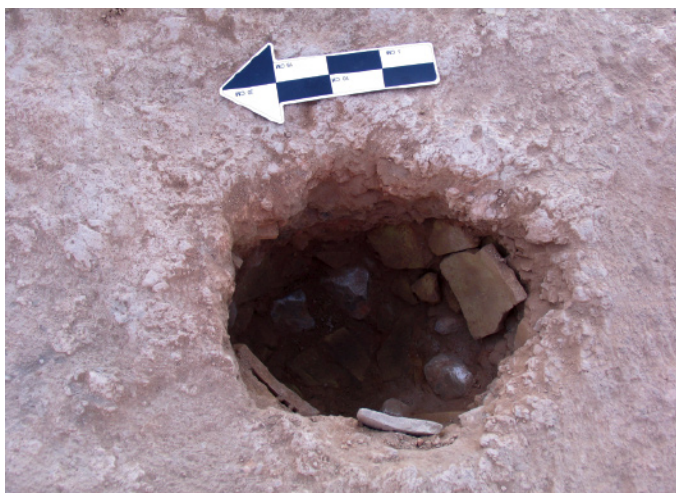
Bakun. However, in the case of Rahmatabad, the pits cover an immense surface. The fill would not have left much space for substantial wooden posts, leaving the structure unstable. In addition, the canopy would have been located close to a kiln that produced a lot of noxious smoke. Therefore, we think that they may have been used to support turntables for potting. From close observations of production marks on the vessels, we know that the painted Bakun pottery was made on small round turntables (Goff 1963: 55) that probably had been set on vertical axles. The potters' hands turned the tables while the walls of the containers were shaped. The turning devices could also have been used as supports while painting the vessels.

Much of the pottery from Rahmatabad has intricate geometric designs. While large jars mostly are decorated with a simple, broad band at the neck, smaller pots with vertical walls have bands of zigzag or lozenge patterns. A typical example is a register with lozenges framed by small triangles. Particularly interesting is the creativity with which Rahmatabad potters filled the lozenges. Small beakers tend to have relatively simple decorations. Open bowls, of which we found a large variety, are subdivided into two, three, or four fields on the interior surface, with complementary or identical painted elements,





▲ These two small pits are among more than a dozen similar examples that we found southeast of the pottery kiln on an otherwise empty surface. The pits were densely packed with small fragments of sherds and pebbles. They may have been used to set up turntables for pottery making.



often alternating stars and bundles of straight lines. They are unpainted on the outside. Thin-walled vessels show the greatest variability in design. Among these are many sherds with “negative patterns.” The visual effect is that of a light-on-dark motif. Naturalistic motifs, such as ibexes and birds, known so well from the type site of Tall-e Bakun, are relatively scarce. They seem to occur mostly in the late levels at Rahmatabad. In addition, some highly abstract patterns with triangles have parallels in more complete examples from Ali Sami’s excavations at Pasargadae and seem to depict human beings.

Was Rahmatabad a specialized village that produced pottery for people living in the surroundings? We cannot yet answer this with certainty. A comparison of painted motifs with those from the Pasargadae region up from the Bolaghi gorge reveals enough differences to make it unlikely that vessels had been traded all the way to Tall-e Nokhodi or Do Tulan. However, it is possible that other sites in the Kamin plain exchanged their products



These fragments of accidentally burnt, irregularly shaped bowls have finger impressions of small children on the outside. Most likely children from the Bakun village collected mud, made small bowls and left them where they had played. In these spaces, trash was periodically burnt, which led to their preservation.

for ceramics from Rahmatabad. Such specialization is often explained as mutually beneficial, each sector of a society—in our case villages—focusing on a distinct productive activity and elaborating it over time. The evidence from Rahmatabad suggests that this pattern of pottery production may have had some other bases as well.

How did the Chalcolithic potters learn their craft? This question is of primary importance for any investigation of craft activities. And one of the most exciting insights into social life at this village is our find of vessels made by children and apprentices. We found two types of such vessels. Some small, very crude examples, all unpainted and burnt accidentally at very low temperatures, have finger imprints on the outside so small that they are certainly from young children. These tiny containers have thick bases and very low walls. Anyone who has tried to make pottery knows that pulling up the vessel walls is the most difficult process of shaping a vessel. The Rahmatabad children likely imitated adult “role models” in play, producing these charming shallow bowls. Judging by today’s children, it was not so much the objects themselves as the ongoing practice that occupied the children most, just as our own children play “driver,” “mother,” or other frequently observed parental roles. Theirs was and is a happy mirror-world of the more stressful and task-oriented adult universe.

If children fancifully adopted adult roles, this state was transformed at some point into a more serious activity. Already predisposed through play, some of them became apprentices. Close to the kiln, we found a painted bowl that is clearly the product of such an apprentice. It has the same low walls and overly heavy base as the unpainted children’s products, but is twice as large. The surfaces are uneven, and its base cracked because it was too thick. However, contrary to the children’s playful items of self-collected mud, this one is made of well-levigated clay similar to that of the normal Bakun pottery.



Thus, it seems that the apprentice who made the piece was allowed to use materials prepared by and for skilled potters. Equally, the apprentice had access to the brushes to decorate his or her creation. The bowl is painted in an unsteady fashion indicating that the person was at the very start of a pot-making career. The motif consists of simple brush strokes, intended to be straight horizontal and vertical bands, and in no way similar to any of the intricate Bakun designs. A close view reveals the inexperienced hand of the apprentice who tried hard but had not yet mastered the art of decorating. Still, the young person's work was deemed acceptable enough by the adult "supervisors" to fire it with their own pottery. Alas, it did not survive the kiln intact! After all the pains taken, the trouble and energy of creating one's first serious piece, what a disappointment! This little bowl is the archaeological materialization of a feeling we call frustration.

Indications are that this craft was not taught in an explicit way. Anthropological studies have revealed that learning in non-industrial contexts proceeds more often than not by imitation and emulation, rather than explicit verbal teaching and clear guidance. Skilled people judge the end product of the

apprentice as either appropriate or, more likely, not, and the apprentice has to repeat the process until she or he literally has embodied the skill (Ingold 2000: 312–22; Bunzel 1972: 60–62). The implications of our finds are important. Whether a person was learning a craft depended heavily on where she or he grew up. Observing and imitating parental tasks was part of an educational process that was based on "self-teaching" to a much larger extent than we are used to. But children's propensity to acquire competence in potting or other practices had one clear limit. Activities not pursued in their neighborhood could not be learned. Thus, the particularities of learning a craft in Bakun settlements, combined with some minor initial settlement-specific differences in what kinds of activities were carried out, were magnified over time.

We do not yet know much about the use of pots at Rahmatabad or elsewhere. Studies of use wear or residues of foodstuffs in vessels have not yet been undertaken for any Bakun ceramic assemblage. However, cooking pots can easily be identified among the Bakun vessels, for they are reddish on the surface, tempered with chaff and at best coarsely smoothed. Shapes differ starkly from the painted vessels and consist of globular pots, some with simple knobs as handles. There are no traces on such wares that would indicate production on turntables. This ware was likely fired in open fires at low temperatures. Similar in material are numerous "clay pestles," more or less conical in shape, roughly fifteen to twenty centimeters tall, made of coarse clay and quite friable. So far, we have not been able to determine their function in any definitive way.

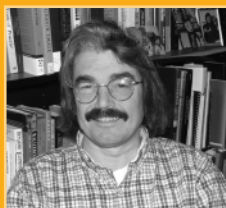
Pottery occurs in two starkly different materials, one coarse and unpainted, the other fine and painted, and this same divide can also be found among animal figurines. Small and simply shaped figurines are made of coarse clay, unpainted, not well smoothed and burnt accidentally. Another kind shares many characteristics with fine Bakun pottery, is painted in red or light brown and was fired in pottery kilns. So far, no human figurines have been found. The chipped stone industry was blade-based, consisting of highly regular blades, unipolar cores, and a variety of tools made on blades. A number of pieces of obsidian were also found, among them a fragment of a core. One of the most important small finds is a seal of reddish polished stone, which was found just outside of Building III. The carved surface has several holes.

## Future Research

Our excavation results at Rahmatabad were so successful that we made all efforts to achieve a last-minute agreement with local authorities and the engineers from the road construction firm to have the road diverted in order to save the site. Preservation of the Middle Bakun architecture is good, and further clearance of the village level would add greatly to our understanding of social, political, and economic processes in Bakun society. In addition, we know from a deep sounding in one of the main trenches that earlier levels extend at least two meters below the Bakun village, including possible Neolithic levels from the sixth and maybe seventh millennia BCE. Even if destruction cannot be avoided, and a return to the

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site is impossible, we can expect highly significant results from the analysis of the data at hand. We processed more than forty-thousand sherds, and the analysis of this material, combined with radiocarbon dates, will hopefully reveal more about the exact chronology of the site's habitation. We also collected large quantities of soil samples for the analysis of pollen, phytoliths (small siliceous "skeletons" in many plants), and flotation samples. With all of this material, we should be able to reconstruct the environmental conditions of Rahmatabad in the fifth millennium BCE. There are several questions that we hope to answer with future excavations.

First, almost every excavated site of the Bakun tradition, such as Tall-e Bakun, Tall-e Gap, Tall-e Nokhodi, and Tang-e Bolaghi 91, has produced evidence for "kilns."<sup>1</sup> Could it be that some "kilns" were instead two-storey ovens similar to those we identified at Rahmatabad and used for purposes other than firing pottery? This can only be answered by reexamining older site publications. And if that were the case, what kinds of materials were processed in such ovens? Samples from recent excavations might help here.

Second, if it turns out that pottery production was indeed ubiquitous—that this is a general feature of most Bakun sites—the importance of pottery in Bakun society would need further consideration. Could it be that painted ceramics occupied a more central position in the life of these prehistoric people than we generally assume, going beyond the function of vessels and their aesthetically pleasing features? If so, what was this importance?

Finally, subsistence strategies at Bakun-period sites are not well known. Recent excavations by Abbas Alizadeh at Tall-e Bakun and other sites (Alizadeh 2004) will add important new data, and together with the fauna and flora from Tang-e Bolaghi 91 and Rahmatabad, we may be able to identify regional differences in the Bakun tradition, which has so far been almost exclusively known from the type-site itself.

Just as the potters of Rahmatabad learned their trade "by doing," so did we. Any excavation is a completely new experience, both in terms of its practicalities as well as socially. In these times, mutual understanding, the building of cultural bridges, and intellectual cooperation are among the most important results of the Rahmatabad project. We thank all of our workers, students, specialists, and everyone who supported this project.

## Note

1. Tall-e Bakun (Langsdorff and McCown 1942: 6; Alizadeh 1994: fig. 3); Tall-e Gap (Egami and Sono 1962: pl. XLII, 6–7); Tall-e Nokhodi (Goff 1964); Tang-e Bolaghi 91 (Barbara Helwing, personal communication).

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